Chapter 1

INTRODUCTION AND PURPOSE AND NEED

1.1 PURPOSE AND NEED

1.1.1 Introduction

Southline Transmission, LLC (Southline), a subsidiary of Hunt Power, L.P., submitted Standard Form (SF-) 299, "Application for Transportation and Utility Systems and Facilities on Federal Lands," to the Bureau of Land Management (BLM) for a right-of-way (ROW) to use BLM-administered public lands for a portion of the proposed Southline Transmission Line Project (Project) on December 4, 2009. Southline amended its application on December 22, 2010, to add an additional section to the proposed Project. The Plan of Development (POD) has also been amended in response to project changes and recommendations from the BLM, Western Area Power Administration (Western), other agencies, and public comment and to include more detail on design features and mitigation measures. This application has been assigned BLM Case File No. NMNM-124104.

Southline proposed to upgrade two of Western's existing transmission lines as part of its Project. Southline has also filed a Statement of Interest with Western's Transmission Infrastructure Program (TIP) because it may seek to use Western's borrowing authority under the 2009 amendment of the Hoover Power Plant Act (PL 98-381, Title III, § 301)) ("the Hoover Act") for the proposed Project. Western needs to determine whether it will provide Hoover Act funding for the proposed Southline Project, and if it does provide funding, the nature and extent of Western's participation in the proposed Project. Western may also participate under a trust funding agreement with the Desert Southwest Region if TIP funding is not provided. In the context of making these determinations, Western will evaluate the upgrade of its existing Saguaro–Tucson and Tucson–Apache 115-kilovolt (kV) transmission lines.

The proposed Project objective is to improve reliability in southern New Mexico and southern Arizona, mitigate existing congestion, increase the ability to meet increasing demand for electricity, and facilitate generation and public policy goals by increasing the capacity of the existing electric transmission grid initially by about 1,000 megawatts (MW). The ultimate capacity could be 1,500 to 2,000 MW.

The proposed Project would consist of two sections. The first section would entail construction of approximately 240 miles of new double-circuit 345-kV transmission line in a new 200-foot ROW between the Afton Substation, south of Las Cruces, New Mexico, and Western's Apache Substation, south of Willcox, Arizona (Afton–Apache Section or New Build Section). The second section would entail the upgrade of approximately 120 miles of Western's existing Saguaro–Tucson and Tucson–Apache 115-kV transmission lines in a 100-foot-wide existing ROW to a double-circuit 230-kV transmission line (Saguaro–Apache Section or Upgrade Section) with up to 50 feet of new ROW in places. The Upgrade Section would originate at the Apache Substation and terminate at the Saguaro Substation northwest of Tucson, Arizona (figure 1-1). Both new permanent ROW and temporary construction ROW would be required in the New Build Section and in some portions of the Upgrade Section for the transmission line, substations, access roads, and other permanent and temporary Project components; the anticipated ROW width for the Upgrade Section 230-kV transmission line would be 150 feet where expansion to that width is feasible. Through Bar V Ranch property (a local conservation area east of Tucson) and through the Tucson area from Del Bac Substation to Rattlesnake Substation (see figure 1-1), no new ROW would be acquired.

The New Build Section (Afton–Apache) would include construction and operation of:

- 205 miles of 345-kV double-circuit electric transmission line in New Mexico and Arizona with a planned bidirectional capacity of up to 1,000 MW. This section is defined by endpoints at the existing Afton Substation, south of Las Cruces in Doña Ana County, New Mexico, and Western's existing Apache Substation, south of Willcox in Cochise County, Arizona;
- 5 miles of 345-kV single-circuit electric transmission line between the existing Afton Substation and the existing Luna–Diablo 345-kV transmission line;
- 30 miles of 345-kV double-circuit electric transmission line between New Mexico State Route 9 (NM 9) and Interstate 10 (I-10) east of Deming in Luna County, New Mexico, to provide access for potential renewable energy generation sources in southern New Mexico. This segment of the proposed Project is included in the analysis, but development of this segment would be determined at a later date;
- one new substation in Luna County (proposed Midpoint Substation) to provide an intermediate connection point for future interconnection requests; and
- substation expansion for installation of new communications equipment at, and connection to, two existing substations in New Mexico and one in Arizona.

The Upgrade Section (Apache–Saguaro) would include:

- replacing 120 miles of Western's existing Saguaro–Tucson and Tucson–Apache 115-kV single-circuit electric wood-pole H-frame transmission lines, which date to 1951, with a 230-kV double-circuit electric steel-pole transmission line. In locations where needed and where possible, an additional 50 feet of ROW adjacent to the existing 100-foot ROW would be required for the new 230-kV line. This Upgrade Section is defined by endpoints at the existing Apache Substation, south of Willcox in Cochise County, Arizona, to the existing Saguaro Substation, northwest of Tucson in Pima County, Arizona;
- 2 miles of new build double-circuit 230-kV electric transmission line to interconnect with the existing Tucson Electric Power Company (TEP) Vail Substation, located southeast of Tucson and just north of the existing 115-kV Tucson–Apache line; and
- Interconnection with and upgrade of 12 existing substations along Western's existing lines in Arizona. Substation expansions would be required for installation of new communications equipment, new 230-kV bays with transformers, breakers, switches, and ancillary equipment. In some cases expansion may require a separate yard.

Under the Federal Land Policy and Management Act of 1976 (FLPMA) (43 U.S.C. 1761–1771), the BLM is considering Southline's SF-299. The BLM is authorized to grant a ROW for electrical transmission lines under Title V of FLPMA. The BLM's decision would constitute a Federal action requiring compliance with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321–4347). This environmental impact statement (EIS) has been prepared to analyze and disclose the potential effects of the proposed Project and to help inform the BLM's decision. As explained in sections 1.2.1 and 1.5, certain alternative transmission line route segments are not in conformance with the Las Cruces District Office "Mimbres Resource Management Plan" (Mimbres RMP) (BLM 1993) Visual Resource Management (VRM) Class II objectives, and one ROW avoidance area stipulation. Therefore, in conjunction with Southline's request for a ROW for the Project, the BLM is also analyzing concurrent resource management plan amendments (RMPAs). The RMPAs would address the identified non-conformance if the proposed Project is approved and a route is selected that is not in conformance with the Mimbres RMP, and would allow the BLM to grant the ROW necessary to construct and operate the proposed Project.

The BLM and Western have agreed to be joint lead agencies under NEPA regulations at 40 Code of Federal Regulations (CFR) 1501.5(b). As a land management agency, BLM administers public lands to sustain their health, diversity, and productivity. BLM manages public land surface resources for a variety of uses as well as subsurface mineral estate. Western is a power-marketing administration within the U.S. Department of Energy (DOE) that operates power transmission facilities in 15 states within the Central and Western United States, including New Mexico and Arizona. Western delivers power from U.S. Bureau of Reclamation (Reclamation), U.S. Army Corps of Engineers (USACE), and International Boundary and Water Commission hydropower generation facilities through a transmission system that it owns and operates.

The BLM New Mexico State Office has been designated the lead BLM office and will use this analysis to assist in its decision whether or not to grant a ROW on BLM-administered public lands for the proposed Project. The BLM New Mexico State Office has delegated the decision to grant the ROW to the Las Cruces District Manager. If the selected alternative requires a plan amendment, approval of this plan amendment would be included as part of the record of decision (ROD).

Western is a joint lead agency with the BLM because Southline proposes to upgrade 120 miles of existing electric transmission lines owned and operated by Western. Western will use the analysis in this EIS to determine whether to permit Southline to upgrade its transmission facilities. Western will also consider this analysis as it determines the nature and level of its participation in the proposed Project under the TIP, which could include joint ownership of the entire Project. These decisions will be made by Western's Administrator and Chief Executive Officer in the Corporate Services Office in Lakewood, Colorado.

The majority of the public lands the proposed Project and alternatives would cross are lands administered by the BLM and State land departments in Arizona and New Mexico. The existing ROW for the upgrade portion of the proposed Project and alternatives lies only in Arizona and crosses short sections of BLM, U.S. Forest Service (Forest Service) (Coronado National Forest), Reclamation, and Tohono O'odham Nation allotment lands, as well as private and State-owned lands. The proposed Project and alternatives would cross both public and private lands located in Doña Ana, Luna, Grant, and Hidalgo counties in New Mexico; and Cochise, Pima, and Pinal counties in Arizona. The proposed Project and alternatives follow existing linear corridors (such as existing power lines, roads, and highways), with a few exceptions, to the maximum extent possible with the intent of minimizing the impacts of new disturbance caused by construction of new access roads and feeder lines to connect to substations.

Southline's proposed route takes into consideration work previously done by the BLM and others in studying potential renewable energy zones in the "Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (Arizona, California, Colorado, Nevada, New Mexico, and Utah) (FES 12-24; DOE/EIS-0403)" (Solar Energy Development PEIS) (BLM and DOE 2012), the "Final Programmatic Environmental Impact Statement on Wind Energy Development on BLM-Administered Lands in the Western United States (DOE/EIS-0386)" (Wind Energy PEIS) (BLM 2005a), and "Renewable Arizona: Restoration Design Energy Project Final Environmental Impact Statement" (RDEP) (BLM 2012a). For example, the 30-mile segment proposed between NM 9 and I-10 in New Mexico could be used as a way to provide interconnection for potential solar generation that could be developed in the area along the segment.

1.1.2 Draft and Final EIS

As guided by 40 CFR 1502.9, EISs are prepared in two stages (and may be supplemented):

- Draft EISs shall be prepared in accordance with the scope decided upon in the scoping process. The lead agency shall work with the cooperating agencies and shall obtain comments as required in 40 CFR 1503. The draft statement must fulfill and satisfy to the fullest extent possible the requirements established for final statements in section 102(2)(c) of the Act. If a Draft EIS is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion. The agency shall make every effort to disclose and discuss at appropriate points in the Draft EIS all major points of view on the environmental impacts of the alternatives including the proposed Project.
- Final EISs shall respond to comments as required in 40 CFR 1503. The agency shall discuss at appropriate points in the Final EIS any responsible opposing view which was not adequately discussed in the Draft EIS and shall indicate the agency's response to the issues raised.

Changes Between the Draft and Final EIS

Following the requirements of 40 CFR 1503, numerous minor edits to the document have been made between the Draft and this Final EIS, many in response to comments by agencies and the public. These include corrections to the text, figures, and tables, and typographical errors. Additionally, Project design has progressed between the Draft and Final EIS resulting in a more refined Project description. As a result, at four substation locations within the Upgrade Section where the proposed Project was anticipated to include expansion of existing facilities, these expansions are more accurately described as "new" substations. These four substation locations are Apache, Pantano, Marana, and Saguaro. Please note that these changes are only a refinement of the project description and do not change the disturbance areas and impact estimates presented in chapter 2 or in the analysis in chapter 4.

The most notable difference between the Draft and Final EIS is the inclusion of route variations east of Willcox Playa and south of the Tucson International Airport. These route variations are described in chapter 2 of this EIS, and were developed based on agency and public comments on concerns about impacts in these areas. These route variations include:

- P7a, P7b, P7c, and Pd are minor route variations in the New Build Section of the proposed Project. These variations were developed to shift segment P7 of the Proponent's Preferred Alternative east away from Willcox Playa to minimize avian impacts;
- U3aPC is a variation of the proposed Project in the Upgrade Section and was developed to shift segment U3a of the Proponent's Preferred Alternative away from potential conflicts with Pima County economic development efforts. U3aPC was also developed to minimize ROW encroachment conflicts and dense development around the existing Western line in the Summit area. Realigning the existing Western line along U3aPC would allow for safer and easier maintenance of the line in this area.

Following is a summary by chapter and appendix of the most notable changes made between the Draft and Final EIS (hereafter "EIS"):

Chapter	Change
1	The proponent's objectives have been updated in response to public comments and a section on the Draft EIS public comment process has been added.
2	Based on public and agency comments and updated information, text has been revised for the proposed Project description. A description of the route variations (P7a, P7b, P7c, P7d, and U3aPC) and changes to the Agency Preferred Alternative are also included.
3	Based on agency comments and updated information, particularly for vegetation and wildlife resources, text has been revised to reflect the affected environment. Text has been revised in all resource sections to reflect the affected environment for the route variations.
4	Information has been revised in all resource sections to reflect the potential impacts for the route variations, as well as based on public comments, as described in chapter 8. A description of the potential impacts has been updated in each resource section to reflect the revised Agency Preferred Alternative in this EIS.
5	Information on the public comment and consultation processes has been revised and updated.
8	A new chapter that includes the agencies' response to public comments on the Draft EIS has been included in tabular form.
Figures	Maps in the Final EIS have been revised to provide more detail, including a change in scale, in response to public comments on the Draft EIS, as well as to depict route variations and changes to the Agency Preferred Alternative.
Appendix	**Change**
D	Updates to species list made to reflect additional route variations.
E	Updates to species list to reflect additional route variations and changes in species status.
F	Updated trails maps and analysis to reflect additional trail crossing from route variations.
G	Updates made to reflect additional route variations.
H	Updates made to reflect additional route variations.
I	Added additional KOPs to reflect additional route variations.
J	Updates to BLM Las Cruces Field Office land use authorization list.
K	Added five additional visual simulations based on request in the comments on the Draft EIS.
L	The final Programmatic Agreement, prepared in accordance with Section 106 of the National Historic Preservation Act, is included in this appendix.
M	The U.S. Fish and Wildlife Service biological opinion and amendment are included in a new appendix.
N	Based on several requests in the comments on the Draft EIS, a draft NEPA POD is included in a new appendix.

1.2 AGENCY PURPOSE AND NEED

The following section describes the purpose of and need for BLM and Western's Federal actions associated with the proposed Project. The BLM and Western, serving as joint lead agencies, are both considering Federal actions that would need to be taken.

BLM must consider Southline's request to be granted a ROW on BLM-administered public lands for the construction, operation, maintenance, and decommissioning of the proposed Project. Western must consider the upgrading of two of its existing transmission lines. This environmental analysis is an important element in Western's consideration for determining the extent and nature of its participation in Southline's proposed Project, and whether to fund the proposed Project in whole or in part under the TIP.

1.2.1 Bureau of Land Management – Purpose and Need

The BLM has received a ROW application from Southline and must determine whether to allow the use of BLM-administered public lands for portions of the proposed Project. In accordance with the FLPMA

and the BLM's ROW regulations (43 CFR 2800), the BLM must manage public lands for multiple uses that take into account the long-term needs of future generations for renewable and non-renewable resources. The Secretary of the Interior is authorized to grant ROWs for "systems for generation, transmission, and distribution of electric energy" "over, upon, under, or through [public] lands" (43 U.S.C. 1761(a)(5)). Taking into account the BLM's multiple-use mandate, the need for the BLM action is established by the BLM's responsibility under FLPMA to respond to a request for a ROW grant while avoiding or minimizing adverse impacts to other resource values and to locate the uses in conformance with land use plans. The BLM's purpose for the proposed Project is to respond to a ROW application submitted by Southline to construct, operate, maintain, and decommission a transmission line (345 kV in the New Build Section and 230 kV in the Upgrade Section), substations, access roads, and associated infrastructure on public lands administered by the BLM in compliance with FLPMA, BLM ROW regulations, and other applicable Federal laws and policies.

In making its decision, the BLM must determine and consider the environmental impact on all lands crossed as a result of granting a ROW across BLM-administered public lands. In its decision to issue a ROW grant, the BLM must also consider existing RMPs and other BLM land use plans in terms of how the authorizations and actions proposed either conform or require an RMPA (43 CFR 1610.0-5(b)). The BLM will decide whether to grant, grant with modifications, or deny the application. Modifications could include granting only a portion of the proposed Project, modifying the proposed use, or changing the route or location of the proposed facilities if the BLM determines such terms, conditions, and stipulations are in the public interest (43 CFR 2805.10(a)(1)). The decisions to be made are summarized below in table 1-1. Please note that the potential land use planning decisions described in table 1-1 would only apply if the selected route is not in conformance with the Mimbres RMP.

Table 1-1. Decisions to Be Made by the BLM

Land Use Planning Decision
Amend the Mimbres RMP to change the VRM class of the affected area.
Do not amend the Mimbres RMP to change the VRM class of the affected area.
Amend the Mimbres RMP to change the stipulations of the affected ROW avoidance area.
Do not amend the Mimbres RMP to change the stipulations of the affected ROW avoidance area.
Site-Specific Decision
Grant ROW as applied for.
Grant modified ROW.
Deny ROW request.

The BLM would issue a ROD with all terms and conditions deemed appropriate by the BLM. The BLM decisions to be made are to:

- decide whether to grant, grant with modifications, or deny all or part of the ROW application for the transmission line, substation expansions, and associated access roads and facilities;
- decide whether one or more RMPs would be amended to allow for a ROW for the proposed transmission line and associated facilities;
- decide whether to approve the proposed RMPA(s) if the proposed Project is not approved;
- determine the most appropriate route across BLM-administered public lands for the transmission line, taking into consideration multiple-use objectives; and

- determine the terms and conditions (stipulations) that should be applied to the construction, operation and maintenance, and decommissioning of the transmission line on BLM-administered public lands.

FLPMA requires that the BLM "develop, maintain, and when appropriate, revise land use plans" (43 U.S.C. 1712). As indicated in the notice of intent (NOI) published in the Federal Register on April 4, 2012, the public was notified of the potential for a plan amendment for this Project. Plan conformance is discussed in section 1.5, and an amendment to one of the four BLM RMPs discussed in section 1.5 of this chapter and in section 2.3 of chapter 2 could be required, depending on the route selected on public lands where current resource management objectives would not be met by construction of the proposed Project.

Specifically, there are two potential conformance issues with the Mimbres RMP: (1) where portions of alternative route segments would cross VRM Class II areas, and (2) where portions of local alternative route segments would cross any avoidance areas designated for the Butterfield Trail near Lordsburg Playa. Section 2.3 of chapter 2 describes in detail which project segments have potential conformance issues with the Mimbres RMP and whether or not these conformance issues would require a plan amendment. If a plan amendment is needed for the selected alternative, the New Mexico State Director would make the decision. The Agency Preferred Alternative, as presented in chapter 2, would not conflict with the Mimbres RMP and thus would not require a plan amendment.

The BLM, along with Western, has prepared this EIS to meet the disclosure requirements under NEPA, to facilitate public participation, to assist the BLM decision makers in determining whether to issue a ROW grant, and to determine under what terms and conditions the ROW grant would be issued. The BLM Las Cruces District Office Manager is the agency official who will be making the decision whether or not to grant the ROW in BLM's ROD. The opportunity to appeal the BLM decision(s) in the ROD (on granting the ROW) would be allowed as provided in 43 CFR 4 and 2801.10.

1.2.2 Western Area Power Administration – Purpose and Need

Western needs to respond to the Project proposed by Southline, which would, in part, include an upgrade of two existing Western transmission lines and associated substations and the use of existing Western transmission easements. In addition, Southline has requested consideration of its proposed Project for funding under the amended Hoover Act of 1984, as described in more detail below. Western needs to determine the nature and extent of its participation in the proposed Project, and whether it will provide funding. In the context of making these determinations, Western will evaluate the upgrade of its existing Saguaro–Tucson and Tucson–Apache 115-kV transmission lines.

Western has a mandate to carry out Federal policy to facilitate renewable energy development and transmission expansion as established in the 2009 amendment of the Hoover Act. The amended Hoover Act authorizes Western to borrow funds from the U.S. Treasury to construct, finance, facilitate, plan, operate, maintain, and/or study construction of new or upgraded electric power transmission lines and related facilities. These transmission lines and related facilities must have at least one terminus in Western's marketing area and deliver or facilitate the delivery of power from renewable resources constructed or reasonably expected to be constructed after the enactment of the amended Hoover Act.

The Arizona Corporation Commission (ACC) commissioned a study that identified the need to improve system reliability in southern Arizona and facilitate the delivery of substantial amounts of power from renewable energy generation projects anticipated to be developed in south-central Arizona ("Final Report of the Arizona Renewable Resource and Transmission Identification Subcommittee," September 2009

(ACC 2009)). System reliability, which is regulated by the North American Electric Reliability Corporation (NERC) through the implementation of reliability standards, is necessary for the dependable operation of the bulk power system. Southline's proposal to upgrade Western's existing transmission lines as part of its overall proposed Project would meet some of the needs identified in ACC's report by strengthening the integrated transmission system, increasing transmission capacity, and improving power delivery. As part of Western's own efforts to maintain the reliability of its transmission system and meet system and customer needs, it has identified the upgrade of the two transmission lines and associated substation in its Desert Southwest Region's 10-year plan for construction and maintenance projects.

As part of its decision whether to use its amended Hoover Act borrowing authority to finance the proposed Project, Western would decide on the amount of funding, potential ownership of capacity rights on the upgrade, repayment provisions, and the nature and extent of its participation in the proposed Project. Specifically, funding would be used to construct the proposed transmission lines and substation upgrades, and remove the existing Western transmission lines. These decisions would be managed through contractual agreements that include defining the respective rights and obligations associated with ownership, construction, operation, and maintenance associated with the proposed Project; and that provide for acquisition of ROWs for the Project.

Before committing funds, Western must certify that the proposed Project is in the public interest; that it would not adversely impact system reliability, system operations, or other statutory obligations; that it has at least one terminus in Western's service territory; that the proposed Project will deliver, or facilitate the delivery of renewable energy; and that it is reasonable to expect that the proceeds from the Project would be adequate to repay a loan from the U.S. Treasury. The development phase would determine the feasibility of the proposed Project. Western's decision would be partially informed by the required NEPA analysis and disclosure in this EIS. If Western decides to participate in the proposed Project, Western and Southline would enter into an agreement to accomplish the upgrade.

Alternatively, Western could choose to participate with Southline with the upgrade of the two transmission lines and associated facilities without the use of its borrowing authority to advance the proposed Project. The current condition of the lines and their inclusion in Western's 10-year capital plan (Western 2012a) indicates, however, that the lines would be upgraded within the next 10 years even if Western does not participate with Southline or make use of its borrowing authority. The source of funding, the timing, and the manner of Western's participation in upgrading the lines are not expected to result in materially different environmental impacts.

Portions of the proposed Project may affect floodplains and wetlands. In accordance with DOE floodplain and wetland environmental review requirements (10 CFR part 1022), this EIS includes a floodplain and wetlands assessment (see the "Water Resources" section in chapters 3 and 4). The NOA for the Draft EIS also served as a notice of proposed floodplain or wetland action, in accordance with 10 CFR 1022.12(a). A floodplain statement of findings is included in this Final EIS (DOE 10 CFR 1022.14(c)) (see section 4.7 in chapter 4).

Western's Federal action is to respond to Southline's proposed Project. Western must make decisions about whether to participate in the Project beyond the development phase, the nature of that participation, and whether to allow the upgrade of its existing transmission lines and the use of its ROW easements. Western must also make decisions about the route of the Agency Preferred Alternative, and upgrades/expansions to the existing substations. Finally, Western must make a decision about using its borrowing authority to finance the Project, in whole or in part, contingent upon the successful completion of development and commercial agreements with Southline.

1.2.3 Role of Bureau of Land Management and Western Area Power Administration

This EIS is being prepared by the BLM and Western in compliance with NEPA, Council on Environmental Quality (CEQ) regulations for implementing NEPA, DOE 10 CFR parts 1021 and 1022, FLPMA, and applicable U.S. Department of the Interior (DOI) and BLM policies and manuals. Other applicable authorizing Federal laws, regulations, and guidelines are described in sections 1.5 and 1.6. Southline would be responsible for obtaining all permits and approvals required to complete the proposed Project, regardless of whether they are listed in this document. Southline is working directly with the Western Electricity Coordinating Council (WECC) to establish path ratings for their proposed Project and integrate their Project with regional transmission efforts. The BLM is not involved in the transmission planning process, nor is it the responsibility of BLM or Western to make any determination of regional transmission infrastructure needs, system requirements, or system rating with regard to the Southline Project. Western is a member of WECC, however, and does participate in regional transmission planning.

In the Upgrade Section, as a participant in the Southline Project, Western would need to revise, amend, and/or file new applications with the BLM and other Federal and State agencies. Western would need to update existing transmission line authorizations for the existing ROWs and obtain rights for those portions of the line where needed. Western may also need to update rights and make payments for updated rights where the proposed facility would cross private lands. Western is currently negotiating renewal of its existing ROW with the Tohono O'odham Nation tribal allottees for that portion of the line located on allotted tribal lands. Western would also need to acquire a revision or reissuance of the existing special use permit (SUP) on the portions of the Project that cross Forest Service lands.

1.3 OBJECTIVES OF SOUTHLINE TRANSMISSION, LLC

Southline worked with WECC,[1] local utilities, and other regional transmission planning groups to design the proposed Project to help solve regional transmission needs such as congestion, reliability, capacity constraints, and limited transmission access for utilities and renewable energy zones in New Mexico and Arizona. Southline's objectives are to satisfy four primary needs; these are summarized below and described in more detail in sections 1.3.1 through 1.3.4.

1.3.1 Improve Reliability of the Electric Transmission Grid in Southern New Mexico and Arizona

Reliability of the electrical grid in southern New Mexico and Arizona is affected by load growth, inadequate electrical transmission capacity, limited electrical connections in the area, and many older electrical transmission lines that are approaching the end of their useful lives.

In recent years, key transmission lines across southern New Mexico and Arizona have experienced unanticipated outages that triggered load-shedding actions by the utilities and prompted investigation by the Federal Energy Regulatory Commission (FERC) and NERC (FERC and NERC 2011).

[1] WECC and the nine other regional reliability councils were formed due to national concern regarding the reliability of the interconnected bulk power systems, the ability to operate these systems without widespread failures in electric service, and the need to foster the preservation of reliability through a formal organization. The Western Interconnection encompasses a vast area of nearly 1.8 million square miles. It is the largest and most diverse of the eight regional councils of NERC. WECC's territory extends from Canada to Mexico. It includes the provinces of Alberta and British Columbia, the northern portion of Baja California, Mexico, and all or portions of the 14 western states in between (WestConnect 2012b).

The transmission system in Cochise County has had reliability issues in the past, including the outages in 2007 that led to the ACC's requests for focused technical studies and mitigation (ACC 2008). In addition to these events, the existing Western line termination at Apache Substation is the outer edge of the Southeastern Arizona transmission system, which has several radial lines that lack redundancy (e.g., there are no other lines that would provide backup in the event of a line failure).

The condition and limited amount of the existing electrical infrastructure leads to highly utilized sections of the electrical system operating with low levels of redundancy to withstand unanticipated outages. In addition, utilities in the area have limited interconnections to hub power markets because of their location on the periphery of the WECC's grid and because of the limited existing electrical transmission capacity in the region. Therefore, access to and delivery of electricity to end users in southern New Mexico and Arizona is inadequate.

There are many older lines in the region that are reaching or beyond the end of their original design lives but that are still in service through the use of heavy maintenance regimes. For example, the Upgrade Section of the proposed Project is part of Western's South of Phoenix H-frame wood pole 115-kV transmission system, which was built in the early 1950s and is well past its engineered lifespan (Western 2012a). The wood poles have been subjected to advanced external shell rot, weathering, decay, and large cracks—conditions that can lead to reduced pole integrity and reduced ability to bear the load of mounted conductors and hardware, especially under severe weather conditions.

The proposed Project would improve system reliability in several ways. In particular, the Project would add bulk electric infrastructure to the existing grid, which would build redundant systems to resolve and allow flexibility for unanticipated and scheduled grid outages, respectively. The upgrading of the existing 115-kV lines and addition of new transmission and substation facilities would create additional connections and would increase import capability for regional utilities. Replacing aging wooden structures with steel structures would reduce maintenance and the incidence of failures. Adding new equipment, including new conductors and insulators and related substation equipment, would increase reliability. The proposed Project would also improve voltage limitations and reduce curtailment for local utilities.

The proposed Project is a transmission-only project with no specific associated generation source; Southline does not purchase power from generators, nor does it sell power to others. The proposed Project, as described in chapter 2, would interconnect with up to 14 existing stations where new or existing power generation resources could interconnect to and utilize the capacity Southline would add to the system.

1.3.2 Mitigate Existing Congestion

Existing transmission capacity in southern New Mexico and southern Arizona is presently almost fully utilized and congested. PL 109-58, the Energy Policy Act of 2005 (EPAct 2005), required that studies be completed detailing national electrical transmission congestion as well as areas where renewable energy development has been inhibited by a lack of sufficient transmission facilities or capacity. Consequently, the DOE produced the "National Electric Transmission Congestion Studies" in 2006, 2009, and 2012. The 2006 and 2009 DOE studies identified Path 47 – Southern New Mexico as one of the top congested paths, out of more than 20 paths in the West (DOE 2006, 2009). This congestion is demonstrated through the available transfer capability (ATC), which is a measure of the contractual transfer capability remaining in a transmission network for further use over and above those already committed uses (WestConnect 2012a) (table 1-2). Operators of the electrical grid in southern New Mexico and Arizona rely on a bilateral, contractual system to reserve transmission capacity and schedule operations that is indicated by the ATC. The proposed Project would be located in a region of WECC that does not have a

central transmission system operator. Rather, areas are balanced and operated by underlying entities on a bilateral contractual basis. Energy supplies and the transmission needed to deliver them are secured with bilateral contracts that ensure that an entity can reliably serve its load. Therefore, it is the contractual congestion that is critically important, as that governs the ability to schedule power deliveries.

Path 47 (the import path to southern New Mexico) is reported to be fully committed, with zero ATC,[2] and the existing lines in the upgrade portion of the Project (which are not included in Path 47) are also fully committed, with near zero ATC. This lack of available contractual capacity results in a congested condition, regardless of the electrical grid's physical state. West-to-east scheduling is congested on Path 47, as evidenced by the lack of ATC, as noted above. The southern New Mexico and El Paso areas experience large variations between periods of peak and low demand. El Paso Electric Company (EPEC) and other load-serving entities in the region need to plan their systems to be able to serve this peak load. The WECC studies (DOE 2006, 2009) show that at these peak hours, Path 47 is highly utilized. Southline studies have shown that the proposed Project would increase the import capability of the region (WECC 2011a).

The electrical grid across southern New Mexico, southeast Arizona, and west Texas faces challenges from severe demand spikes resulting from large temperature swings—especially during hot summer months. Because loads on power lines are constantly changing and utilities need to reserve capacity to meet required levels of reliability, the congested state of the electrical grid exacerbates the difficulties of local utilities to provide reliable service, even when increased electrical load can be anticipated. The poor physical condition of certain components of the transmission grid, coupled with this current state of congestion, makes the entire system itself vulnerable to cascading outages and potential regional blackouts.

The proposed Project would mitigate existing and predicted future congestion, in both the east-to-west and west-to-east directions, by adding up to approximately 1,000 MW of bidirectional capacity to the electric grid. Adding the proposed Project to the system would increase west-to-east capability and therefore mitigate the existing contractual congestion. Additional west-to-east capacity could serve multiple purposes, including increased reliability, operational flexibility, and reduced maintenance, and therefore its value is not solely in relation to local versus external power generation plans.

Table 1-2 demonstrates the existing transmission capacity in southern New Mexico and southern Arizona, including Path 47, compared with the transmission capacity that would exist at each stage of the WECC process (Phase 1 and Phase 2) if the proposed Project were built.

Table 1-2. Existing and Planned Transmission Capacity in Southern New Mexico and Southern Arizona

Southline Project Section	Existing ATC	Proposed Southline Rating (WECC Project Coordination Review Group)	Planned Southline Rating (WECC Phase 1)	Accepted Southline Rating (WECC Phase 2)*
Afton to Apache (E-W)	151 MW (4 rates)	1,000 MW	1,038 MW	In process TBD ~1,037 MW
Apache to Saguaro (E-W)	0 MW	1,000 MW	1,001 MW	In process TBD ~1,000 MW
Saguaro to Apache (W-E)	0 MW	1,000 MW	418 MW	In process TBD ~430 MW
Apache to Afton (W-E)	0 MW	1,000 MW	957 MW	In process TBD ~971 MW

Source: WestConnect (2012a).
* WECC (2015).

[2] Available at: http://www.oasis.oati.com/EPE/EPEdocs/Narrative_Explanation_for_Zero_ATC.pdf (Western 2013).

1.3.3 Increase the Ability to Meet Electrical Demand Growth in the Region

Southern New Mexico and Arizona have seen increased growth in recent years, according to the U.S. Census Bureau (Census Bureau). In the Afton–Apache Section, the average population growth in Doña Ana, Grant, Hidalgo, Luna, and Cochise counties was 12.9 percent between 2000 and 2010. In the Apache–Saguaro Section, the average population growth in Cochise, Pima, and Pinal counties was 15.6 percent between 2000 and 2010 (Census Bureau 2010a). Major load centers in the region (Tucson, Las Cruces, El Paso, and Phoenix) have grown by as much as 20 percent between 2000 and 2010 (Census Bureau 2013a). This increased growth has increased the demand for electricity and contributed to the congested state of the electrical grid in southern New Mexico and Arizona. In addition, the grid itself was designed for load conditions that existed more than 60 years ago that have since been far exceeded. The proposed Project has not been designed to induce growth, but rather to meet existing demand and existing transfer needs, as well as position utilities to meet future growth that would occur with or without the proposed Project. Most of the area is expected to continue to grow at a faster rate than the United States overall (Arizona Department of Administration (ADOA) 2013).

How regional utilities will meet future load growth depends on the availability and cost of various resources, including both transmission and generation. Utilities cannot include the proposed Project in their long-term plans until the project reaches regulatory and commercial maturity. As new transmission resources become available, the utility resource plans will evolve. In the absence of adequate transmission facilities, as is the case today, regional utilities must select generation solutions for their resource needs, and the potential types and locations for such generation may be limited. The availability of additional transmission capacity opens up a range of resource solutions, and potentially a greater universe of generation types and locations. For example, transmission that provides access to solar or wind generation zones would provide attractive options to a utility with growing resource needs and increasing renewable portfolio standards (RPSs). Similarly, the availability of transmission capacity would provide access to purchased power resources. The location of the proposed Project is not dictated by utility generation siting decisions, but instead by existing substations that are expected to expand (e.g., the Afton Substation, etc.).

The proposed Project would help meet future electric demand (or load growth) by adding 1,000 MW of capacity to the electric grid, which would improve regional transmission reliability and relieve congestion while improving access to energy sources. This would alleviate three of the primary factors that would inhibit the local utilities' ability to meet future electrical demand.

1.3.4 Facilitate Renewable Generation Development and Achievement of Public Policy Goals

Demand for transmission capacity to serve renewable resources will increase as western states attempt to meet their RPSs. Mandatory RPSs have been established to encourage the development of renewable energy sources and mandate that electricity producers obtain a minimum percentage of power from renewable energy resources before a certain date. New Mexico's RPS is 20 percent by 2020, and Arizona's RPS is 15 percent by 2025 (BLM and DOE 2012). The Public Regulation Commission of New Mexico and the ACC have specific incremental goals and timetables planned so as to be able to meet their respective 2020 and 2015 RPSs (DOE 2013).

Two Federal planning efforts identified specific locations that are well suited for renewable energy and established design features that would apply to these types of projects on BLM-administered lands. These two efforts overlap the Southline project area in Arizona and New Mexico, and include the Arizona BLM's RDEP (BLM 2012a) and the Solar Energy Development PEIS (BLM and DOE 2012).

The RDEP ROD established 192,100 acres of renewable energy development areas (REDAs) on BLM land throughout Arizona. In addition, the ROD established the Agua Caliente Solar Energy Zone (SEZ) near Dateland in western Arizona. The BLM amended eight land use plans across Arizona to include the REDAs and RDEP SEZ. While these amendments only apply to BLM-managed lands, the RDEP examined all lands in Arizona.

The Solar Energy Development PEIS identified priority areas for utility-scale production of solar energy (i.e., SEZs), including the Afton SEZ in New Mexico; exclusion areas for utility-scale solar energy development; and areas potentially available for utility-scale solar development outside exclusion areas and SEZs (variance areas). Land use plans in six western states (Arizona, California, Colorado, Nevada, New Mexico, and Utah) were also amended to establish programmatic and SEZ-specific design features for solar energy development on public lands.

The fully utilized and congested condition of the transmission grid limits the development of renewable energy generation projects. For example, the available transmission capacity for the Afton SEZ is only a small fraction of the 6,900-MW nameplate development potential for the zone and would not currently enable the export of electricity to load centers. Similarly, in Arizona in 2008, the Southeast Arizona Transmission Group described many of the local systems' needs and limitations and suggested the benefits of upgrading Western's existing 115-kV lines between Apache and Saguaro. TEP and Southwest Transmission Cooperative (SWTC) further reinforced this in 2009, identifying this upgrade as one of the top three potential renewable transmission projects in their planning area.

The proposed Project would add up to about 1,000 MW of bidirectional capacity to the existing electrical grid in southern New Mexico and Arizona and relieve congestion by adding bulk electric infrastructure, including connection with up to 14 existing substations spread across the area, which would improve the local utilities' ability to access energy sources. In doing so, the proposed Project would be consistent with public policy goals promoting the increased use of renewable energy to meet RPSs.

1.4 ELECTRIC TRANSMISSION REGULATION AND PLANNING

Traditionally, local utilities owned and controlled the electrical transmission network, but today's regulatory framework allows for third-party non-utility ownership, or independent transmission. In North America, there are four large geographic areas or "interconnections" that operate as interconnected systems in the lower 48 states, as well as the Canadian Provinces, along with a portion of northern Mexico. These are the Eastern Interconnection, Western Interconnection, and Electric Reliability Council of Texas, along with a fourth interconnection that links Québec to the Eastern Interconnection (National Renewable Energy Laboratory (NREL) 2011). The proposed Project would be a third-party, non-utility independent transmission project located within the Western Interconnection.

The electric utility industry currently operates under a variety of statutes that include the system reliability oversight provisions of the EPAct 2005. Generally, industry regulatory oversight can be separated into three main categories: interstate electricity sales, bulk electric system reliability, and physical construction of facilities. The FERC oversees interstate electricity transmission and wholesale sales, NERC oversees bulk electric system reliability, and State public utilities commissions (PUCs) or their equivalent

organizations oversee physical construction of facilities. In general, each state in the United States has a PUC or like organization charged with regulating in-state investor-owned electric utilities, municipal utilities, rural electric cooperatives, and other electricity generators. In New Mexico, the New Mexico Public Regulation Commission oversees electrical utilities, and in Arizona, the ACC Power Plant and Line Siting Committee provides oversight. Western, as a Federal agency, is not subject to State oversight even though it performs utility functions.

1.4.1 Federal Energy Regulatory Commission

At the national level, the FERC has regulatory authority over the interstate transmission and wholesale sale of electricity and operation of regional markets. FERC is an independent regulatory agency within DOE, charged with regulating interstate electricity sales and wholesale electricity rates. Independent transmission projects typically receive authority from FERC to enter into negotiated transmission rates. In January 2013, FERC released a policy statement (Docket Nos. AD12-9-000 and AD11-11-000) that now allows for independent transmission developers to enter into bilateral negotiations directly with potential customers to reach an agreement on rates, terms, and conditions, as long as the FERC process criteria are followed.

1.4.2 North American Electric Reliability Corporation

NERC has the responsibility, under FERC authority, to oversee power system reliability, operating, and planning standards in the United States. Every transmission utility in the United States and Canada participates in the NERC reliability assessment process to ensure that their transmission and generation systems meet industry standards and will perform reliably. Most of the criteria for transmission planning are based on NERC standards.

NERC oversees and works with eight regional entities to improve the reliability of the bulk power system. Each regional entity has been delegated authority from NERC for the purpose of proposing and enforcing reliability standards within their region. These entities were formed in response to national concerns regarding the reliability of the interconnected bulk power system and the ability to operate these systems without widespread service failures. The eight entities consist of the Florida Reliability Coordinating Council, Midwest Reliability Organization, Northeast Power Coordinating Council, ReliabilityFirst Corporation, SERC Reliability Corporation, Southwest Power Pool, Texas Reliability Entity, and WECC. WECC oversees Arizona and New Mexico.

1.4.3 Western Electricity Coordinating Council

WECC is the regional entity responsible for coordinating and promoting bulk electric system reliability in the Western Interconnection. WECC also provides an environment for coordinating the operating and planning activities of its members as set forth in the WECC bylaws, including oversight of the WECC Project Coordination and Path Rating Process. WECC's region encompasses all or portions of 14 western states and extends into portions of Canada and Mexico. WECC produces a 10-year regional transmission plan that is approved by its Board of Directors and provides an interconnection-wide perspective on expected future transmission and generation. In an effort to help ensure the reliability and efficiency of the Western Interconnection, the 10-year plan is meant to support decision makers in determining where and when to build new transmission or other related actions. In September 2013, WECC published its first 20-year plan (WECC 2013), which primarily uses a top-down process analyzing a broad range of strategic scenarios that cover economic conditions, technological change, environmental issues, regulatory policy, etc.

1.4.4 WestConnect

WestConnect members consist of utility companies with transmission assets in eight different states in the western United States that collaboratively assess stakeholder needs and develop cost-effective transmission enhancements. Members participate in organized subregional planning groups whose activities promote effective, open, and transparent transmission planning and assist WECC in its regional planning efforts.

1.4.5 Southwest Area Transmission

Southwest Area Transmission (SWAT) is a volunteer subregional planning organization that is supported by WestConnect. SWAT was created to provide support for the coordination, planning, and implementation of transmission throughout New Mexico and Arizona and in portions of Colorado, west Texas, southern Nevada, and the Imperial Valley area of California. SWAT operates in a public forum, performs study work cooperatively with stakeholders, and develops plans in a collaborative fashion while disseminating study results to a broad spectrum of interested and affected parties.

SWAT consists of transmission regulators/governmental entities, transmission users, transmission owners, transmission operators, and environmental entities. The goal of SWAT is to promote regional planning in the desert Southwest. The SWAT planning group includes transmission planning subcommittees and workgroups that evaluate future transmission needs and are overseen by the SWAT Oversight Committee. Specifically, the New Mexico Transmission Subcommittee oversees the New Mexico and Southwest Texas region; participants include the Public Service Company of New Mexico, EPEC, Tri-State Generation and Transmission Association, and others. The Southeastern Arizona Transmission Study (SATS) Subcommittee oversees the Southeastern Arizona Region, including the Southline Transmission Line Project. SATS participants include Arizona Public Service (APS), Central Arizona Project (CAP), EPEC, Public Service Company of New Mexico, TEP, Western, SWTC, and Reclamation.

1.5 RELATIONSHIP TO POLICIES, PLANS, AND PROGRAMS

The following section describes the proposed Project's relationship to applicable Federal, State, and local policies, plans, and programs. Where the Project would cross other Federal lands or private and State lands, it would be subject to applicable land use planning regulations, zoning ordinances, or other requirements enforced by the Federal, State, county, or local jurisdictions. Southline would need to secure necessary local permits and legal access, and ROW would also need to be obtained from all landowners where applicable.

1.5.1 Bureau of Land Management Resource Management Plans

The BLM manages public land for both multiple use and sustained yield, as directed by FLPMA, to ensure that present and future needs are considered in the management of resources. The BLM develops land use plans, or RMPs, that describe the goals and management objectives needed to achieve the multiple-use and sustained-yield objectives.

A list of BLM RMPs with BLM-administered public lands potentially crossed by the proposed Project is provided below in table 1-3. Where possible, the proposed Project has been designed to conform to existing plans. Although BLM and Western would prefer to maintain consistency with the RMPs, a plan amendment could be required in the event that BLM and Western select an alternative that does not conform to resource management objectives or decisions.

Plan conformance was reviewed for all resources in each of the applicable BLM land use plans listed in table 1-3. As discussed in section 1.2.1, there are two potential conformance issues with the Mimbres RMP: (1) where portions of six alternative route segments would cross VRM Class II areas; and (2) where portions of one of the six alternative route segments would also cross a ROW avoidance area designated for the Butterfield Trail near Lordsburg Playa and would not meet the ROW avoidance area stipulations. No plan amendments would be required or proposed for any portions of the Project in Arizona.

- A plan amendment would be required for the Mimbres RMP that would change the VRM Class II to VRM Class III or IV where the proposed Project intersects VRM Class II areas. Six Project segments, totaling approximately 28 miles within the New Build Section, intersect VRM Class II lands (see chapter 2, "Action Alternatives Requiring BLM Plan Amendments").
- A plan amendment for the Mimbres RMP would be required for the portion of the alternative route segment (an agency local alternative near the Lordsburg Playa) that parallels an avoidance area designated for the Butterfield Trail. There is a special stipulation in the Mimbres RMP that "facilities will not be located parallel to the Continental Divide National Scenic Trail or Butterfield Trail" (BLM 1993:2-17). Avoidance areas may be available for location of ROW with special stipulations, design features, and/or mitigation measures. The special stipulations would be required to reduce or mitigate impacts to the values for which the area is being avoided.

Table 1-3. Applicable BLM Land Use Plans and Planning Documents

Resource Management Plan	Plan Date	Lead Office	Project Applicability
Mimbres Resource Area*	December 1993	Las Cruces District Office	Afton–Apache
Safford RMP	August 1991	Safford District Office	Apache–Saguaro
Las Cienegas RMP	July 2003	Tucson Field Office	Apache–Saguaro
Phoenix RMP	December 1988	Phoenix District Office, Tucson Field Office, Safford Field Office	Apache–Saguaro
RDEP	January 2013	Arizona State Office	Arizona
Solar Energy Development PEIS	October 2012	BLM DOI	Arizona, New Mexico
West-wide Energy Corridor PEIS	November 2008	BLM DOI	Arizona, New Mexico

* The TriCounty RMP is in progress. When approved, the TriCounty RMP would amend the portion of the 1993 Mimbres RMP (BLM 1993) that covers Doña Ana County.

FLPMA requires that the BLM prepare and maintain on a continuing basis an inventory of visual values on all public lands. This inventory is described in BLM Manual 8400 – "Visual Resource Management" (BLM 1986a), and BLM Instruction Memorandum (IM) 2009-167, "Application of Visual Resource Management Program to Renewable Energy." The BLM VRM system requires a visual resources inventory (VRI) and the establishment of land management objectives (VRM classes) designated in the RMPs for all BLM Field Offices.

The TriCounty RMP is currently in progress and when approved would amend a portion of the Mimbres RMP. A review of the TriCounty RMP Draft EIS and the BLM preferred alternative (Alternative C) has identified that portions of the proposed Project would not be in conformance with the proposed TriCounty RMP where it would cross VRM Class II land. An analysis of Project conformance with the preferred alternative for the TriCounty RMP Draft EIS is discussed in cumulative impacts in chapter 4 of this EIS.

As discussed previously, two Federal planning efforts resulted in the amendment of RMPs: the RDEP amended plans in Arizona, and the Solar Energy Development Project amended plans in both New Mexico and Arizona. These planning documents and associated RODs identified specific locations that are well suited for renewable energy and established design features that would apply to these types of projects on BLM-administered lands. These are also listed in table 1-3.

1.5.2 Coronado National Forest Plan

The "Coronado National Forest Land and Resource Management Plan," as amended (Forest Plan) (Forest Service 1986a), governs overall management of the Coronado National Forest. A 0.5-mile of segment of Western's existing 115-kV line crosses the Coronado National Forest. If the line is upgraded as described herein, Western would need to acquire a revision or reissuance of the existing SUP.

Because the proposed Project would include the upgrade of an existing line, this portion of the Project would be consistent with various aspects of the forest plan. In accordance with management direction under "Management Prescriptions Applicable to All Areas of the Forest" (Forest Service 1986a:41),

> existing utility and transportation corridors will continue to be used for those types of uses. Every attempt should be made to locate new utilities within those existing corridors that meet the visual quality objective. Existing corridors that do not meet the visual quality objective should be relocated when construction becomes necessary. New corridors shall be located so that the visual quality objectives are met.

As discussed in chapters 3 and 4 (sections 3.10 and 4.10 for "Visual Resources"), the portion of the proposed Project that would cross Coronado National Forest lands meets the visual quality objective for these lands. Amendment(s) to the forest plan would not be needed to ensure forest plan consistency. As described in chapter 2, the existing Western Tucson–Apache 115-kV line parallels an existing SWTC 230-kV line and a 69-kV APS line across the Coronado National Forest.

1.5.3 Local Jurisdiction Plans

Each of the jurisdictional plans reviewed for this EIS are discussed in detail in Chapter 3, Section 3.11.1, "Land Use." The proposed Project would cross lands under the planning jurisdictions of Doña Ana, Luna, Grant, and Hidalgo counties in New Mexico and Graham, Greenlee, Cochise, Pima, and Pinal counties in Arizona. Table 1-4 lists the relevant local jurisdictions in the analysis area; the actual planning jurisdiction crossed by the Project would vary based on the selected route and final ROW if approved. As discussed in Chapter 4, Section 4.11.1, "Land Use," there are no requirements in any of the local jurisdictional plans that would limit the proposed Project.

Table 1-4. Summary of Local Jurisdiction in the Analysis Area

State	Municipality
New Mexico	**Doña Ana County,** including: *Unincorporated Community of Doña Ana*
New Mexico	**Luna County,** including: *City of Deming* *City of Columbus*
New Mexico	**Grant County,** including: *Unincorporated Community of Hachita*
New Mexico	**Hidalgo County,** including: *City of Lordsburg*
Arizona	**Cochise County,** including: *Unincorporated Community of San Simon* *Unincorporated Community of Bowie* *Unincorporated Community of Cochise* *Unincorporated Community of Pomerene* *City of Benson* *City of Willcox*
Arizona	**Pima County,** including: *City of Tucson* *Town of Marana* *Census Designated Place of Avra Valley*
Arizona	**Graham County**
Arizona	**Greenlee County**
Arizona	**Pinal County**

1.5.4 Permits Required or Potentially Required

Table 1-5 provides a list of major Federal, State, and local permits and approvals that could be required for construction and operation of the proposed Project. Note that this list is not exhaustive.

1.5.5 Additional Federal Actions

Following are the additional Federal actions required for the proposed Project: Bureau of Indian Affairs (BIA), Forest Service, and Reclamation.

Bureau of Indian Affairs

A 2.9-mile section of the existing Western Tucson–Apache 115-kV line crosses the San Xavier District of the Tohono O'odham Nation in the Tucson area. As previously noted, Western is currently negotiating renewal of its existing ROW with the Tohono O'odham Nation tribal allottees for that portion of the 115-kV line located on allotted tribal lands. The draft environmental assessment for the purpose of BIA's ROW decision is currently under BIA review. If the line is upgraded as proposed herein, Western would need to apply to the BIA to revise or reissue the ROW to expand the ROW by 50 feet as needed, per 25 CFR Part 169. The BIA would need to decide whether to authorize the upgrade of the line and, where needed, to expand the ROW by 50 feet. The agency official who would be making the decision is the Superintendent of the BIA Papago Agency.

U.S. Forest Service

As noted above in section 1.5.2, a 0.5-mile of segment of Western's existing Tucson–Apache 115-kV line crosses the Coronado National Forest in Arizona. Therefore, if the line is upgraded as proposed herein, Western would need to apply to revise or reissue the existing SUP, and the Forest Service would determine whether to authorize the upgrade of the line and if needed, expand the ROW by 50 feet, per 36 CFR 212.51(a)(8). The agency official who would be making the decision is the Forest Supervisor of the Coronado National Forest. The decision whether to revise or reissue the SUP for the ROW would be documented in a separate decision document by the Forest Service.

Table 1-5. List of Required Federal and State Permits and Approvals*

Regulatory Authority/Agency	Permit/Approval	Project Trigger	Relevant Law/Regulation
Federal			
BLM	ROW grant, land use plan amendment	Request for ROW across BLM lands	43 U.S.C. 1761–1771
BLM	Permit for archaeological investigations	Federal undertaking with the potential to affect historic properties	Archaeological Resources Protection Act (ARPA), Antiquities Act of 1906, FLPMA
BLM	Permit for collection of paleontological resources	Potential for disturbance of paleontological resources and need for collection	Paleontological Resources Preservation Act, FLPMA
BLM *In consultation with Western, State Historic Preservation Offices (SHPOs), Advisory Council on Historic Preservation, tribes, other Federal, State, and local agencies and consulting parties*	Compliance with Section 106 of the NHPA	Potential to disturb historic properties	NHPA (54 U.S.C. 470); 36 CFR 800
Western	Determine whether Southline can upgrade Western's lines and use existing transmission easements as part of the proposed Project; determine feasibility and impacts of proposed Project; and determine the nature of Western's participation in the proposed Project	Proposal to upgrade a segment of Western's transmission system and have Western obtain updated and new transmission line easements, and to use Western funding	Hoover Power Plant Act 98-381, as amended Reclamation Law, including but not limited to the Reclamation Act of 1902, 43 U.S.C. 391, Hayden O'Mahoney Amendment, 43 U.S.C. 391a-1 and 392a; the Reclamation Project Act of 1939, Section (c) 43 U.S.C. 485h(c); Flood Control Act of 1944, Section 5, 16 U.S.C. 825s; Department of Energy Organization Act, 42 U.S.C. 7152a; Energy Policy Act of 1992, 16 U.S.C. 796, 824j, 824k, and 824l; Energy Policy Act of 2005 Contributed Funds Act, 43 U.S.C. 395; Antideficiency Act, 31 U.S.C. 1341; and associated regulations, orders and policies

Table 1-5. List of Required Federal and State Permits and Approvals* (Continued)

Regulatory Authority/Agency	Permit/Approval	Project Trigger	Relevant Law/Regulation
Federal, cont'd.			
Reclamation	Easement or ROW use authorization. Coordination with Central Arizona Water Conservation District for Project activities affecting CAP (Reclamation) lands and facilities.	Substation and/or ROW expansion	The Reclamation Act of June 17, 1902, 32 Stat. 388, 43 U.S.C. 371, et seq., specifically 32 Stat. 389, 43 U.S.C. 421 and the Flood Control Act of 1944, 58 Stat. 887, 890, 16 U.S.C. 825s, as amended and supplemented by subsequent acts or enactments; the Reclamation Project Act of 1939, 53 Stat. 1187, 43 U.S.C. 485; the Rivers and Harbors Act of August 30, 1935, 49 Stat. 1028, 1039, 33 U.S.C. 540; the Act of May 28, 1954, Ch. 12, 68 Stat. 143, and other acts specifically applicable to this project; the Act of August 1, 1888, 25 Stat. 357, 40 U.S.C. 257, repealed and reenacted as 40 U.S.C. 3113; the Act of February 26, 1931, 46 Stat. 1421, 40 U.S.C. 3114; the Department of Energy Organization Act of August 4, 1977, 91 Stat. 565, 42 U.S.C. 7101, specifically 91 Stat. 578, 42 U.S.C 7152; and the Omnibus Appropriations Bill of FY 2009, PL 111-8
BIA	ROW Easement	Upgrade of existing Western line across tribal land	25 CFR Part 169
Forest Service	SUP	Upgrade of existing Western line across Coronado National Forest	36 CFR 212.51(a)(8)
Forest Service – Coronado National Forest	SUP	Potential for disturbance of cultural resources on the Coronado National Forest	ARPA, FLPMA
USACE	Section 404 permit	Impacts to jurisdictional waters of the U.S.	Clean Water Act, 33 U.S.C. 1251, et seq.
U.S. Fish and Wildlife Service	Biological opinion, concurrence, or incidental take permit	Potential impact to threatened or endangered species	Endangered Species Act, 16 U.S.C. 1531–1544
U.S. Environmental Protection Agency	National Pollutant Discharge Elimination System (New Mexico)	Stormwater management from potential discharges greater than 5 acres	40 CFR 122.26
DOD	Easement or ROW use authorization	Construction, operation, and decommissioning of transmission line across DOD-administered land	10 U.S.C. 2668
Federal Aviation Administration (FAA)	A "No-hazard Declaration" required if structure is more than 200 feet high	Location of structure relative to airports and airspace if structure is more than 200 feet high	FAA Act of 1958, 14 CFR 77

Table 1-5. List of Required Federal and State Permits and Approvals* (Continued)

Regulatory Authority/Agency	Permit/Approval	Project Trigger	Relevant Law/Regulation
New Mexico			
New Mexico Public Regulation Commission	Application for approval of location of transmission line and certificate of public convenience and need	Construction of a transmission line greater than 230 kV	New Mexico Statutes Annotated (NMSA) 62-9-3; 17.9.592 New Mexico Administrative Code (NMAC), and NMSA 62-9-1; 17.1.2.9 NMAC
New Mexico Department of Transportation (DOT)	Access or public highway utility accommodation permit	Upgrading access roads, use of public highway to transport oversize loads, or installation of transmission lines within DOT ROW	18.31.6 NMAC, and 17.4.2 NMAC
New Mexico State Land Office	ROW or easement permit	Construction, operation of a transmission line on State lands	NMSA 19-7-57
New Mexico SHPO		Federal undertaking with the potential to affect historic properties	NHPA, Section 106 (36 CFR 800)
New Mexico State Historic Preservation Division	Permit for archaeological investigations	Potential for disturbance of cultural resources on State land	NMSA 18-6
New Mexico Department of Energy, Minerals, and Natural Resources Forestry Division	Collection permit	Displacement or removal of any State endangered plant species	NMSA 75-6-1; 19.21.2 NMAC
Arizona			
ACC	Certificate of Environmental Compatibility	Construction of a transmission line greater than 115 kV	Title 40 Arizona Revised Statutes (ARS) Chapter 2, Article 6.2 (40-360–40-360.13)
Arizona State Land Department	ROW/right-of-entry permit	Survey, construction, operation of a transmission line or substation on State lands	ARS 37-461
Arizona DOT	Crossing or encroachment permit, permit for use of highway ROW	Construction, operation, abandonment of transmission lines within State highway ROW or use of public highway to transport oversize loads	ARS 28-7053, Arizona Administrative Code R17-3-501–509
Arizona SHPO		Federal undertaking with the potential to affect historic properties	NHPA, Section 106 (36 CFR 800)
Arizona State Museum (ASM)	Arizona Antiquities Act (AAA) blanket permit or Project-specific permit	Potential for disturbance of cultural resources on State land	AAA ARS 41-841 through 41-847
ASM	Permission to disturb human remains	Potential for disturbance of human or funerary objects remains on State or private land	AAA ARS 41-844 and ARS 41-865

Table 1-5. List of Required Federal and State Permits and Approvals* (Continued)

Regulatory Authority/Agency	Permit/Approval	Project Trigger	Relevant Law/Regulation
Arizona, cont'd.			
ASM	AAA blanket permit	Potential for disturbance of paleontological resources on State land	AAA ARS 41-841
Arizona Department of Environmental Quality	Arizona Pollutant Discharge Elimination System	Stormwater management from potential discharges greater than 5 acres	ARS 49-255.01
Tohono O'odham Nation	Permit to conduct archaeological work	Potential for disturbance of cultural resources on Tohono O'odham Nation land	Title 8, Chapter 1, "Archaeological Resources Protection" (Ordinance No. 06-84) of the Tohono O'odham Nation Tribal Code
Arizona Department of Agriculture	Application for Arizona native plant and wood removal	Displacement or removal of any listed native plant species	Native Plant Law, ARS Title 3 (Chapter 7)
Local†			
Development Services, Public Works, DOT	ROW use permit, encroachment permit	Potential encroachment onto County/City ROW	Varies; County/local ordinance or municipal code
Planning and Zoning, Community Development	Special use, conditional use permits	Change zoning or land use to allow construction of the transmission line and associated facilities	Varies; County/local ordinance or municipal code
Floodplain Departments	Floodplain use permit	Construction of project facilities in flood-prone areas as defined by Federal Emergency Management Agency	Varies; County ordinance
Public Works Department	Grading/excavation/building permit	Construction	Varies; County/local ordinance or municipal code
Department of Environmental Quality, Air Quality Districts	Fugitive dust control permits	Construction	Varies; County ordinance

* Note that this list is not exhaustive.

† Local permits are only examples of permits that may be required by various local agencies (County/City).

Bureau of Reclamation

A 0.2-mile section of the existing Western 115-kV line crosses Reclamation lands in the Tucson area, adjacent to the Del Bac Substation. If the existing Western line is upgraded and additional ROW is needed for the upgrade, and the Del Bac substation is expanded as proposed herein, Western would need to apply to revise or reissue the existing easement or ROW use authorization.

1.6 FEDERAL AND STATE LAWS AND REGULATIONS

The section below describes the laws, regulations, and guidelines that support the need for energy generation and development of transmission infrastructure.

1.6.1 Key Agency Planning Orders and Statutes

Executive Order 13212

Executive Order (EO) 13212, dated May 18, 2001, mandates that agencies act expediently and in a manner consistent with applicable laws to increase the "production and transmission of energy in a safe and environmentally sound manner." Furthermore, agencies are directed to expedite projects that would increase the transmission of energy and expedite their review of permits to accelerate the completion of such projects.

Energy Policy Act of 2005

The Federal EPAct of 2005 requires the DOI to approve at least 10,000 MW of renewable energy on public lands by 2015; BLM is an agency under the DOI. The proposed Project would allow for the transmission and distribution of energy from potential renewable generation facilities across southern New Mexico and Arizona; however, use of the transmission line would not be limited to power from renewable generation.

Section 368 of the Energy Policy Act of 2005

Section 368 of the EPAct 2005 requires the DOI, in conjunction with the U.S. Department of Agriculture (USDA), Department of Commerce (DOC), DOE, and Department of Defense (DOD), to designate pipeline and electric transmission corridors for the 11 contiguous western states and establish procedures to expedite the review of projects that would be located within established energy corridors. Section 368 specifically notes the need for upgraded and expanded electric transmission infrastructure in the western United States to improve reliability, relieve congestion, and improve the capacity of nationwide electric transmission.

In response to section 368 of the EPAct 2005, the BLM and the DOE prepared the "Programmatic Environmental Impact Statement, Designation of Energy Corridors on Federal Land in the 11 Western States" (WWEC PEIS), with the USDA, Forest Service, DOD, and the U.S. Fish and Wildlife Service (FWS) participating as cooperating agencies (DOE and BLM 2008). The PEIS establishes energy corridors on public lands in the western United States and serves as an amendment to existing RMPs, including the Mimbres RMP (BLM 1993), "Final Safford District Resource Management Plan and Environmental Impact Statement" (Safford RMP) (BLM 1991), and "Proposed Phoenix Resource Management Plan and Final Environmental Impact Statement" (Phoenix RMP) (BLM 1988a).

Corridors established by the WWEC PEIS were developed by Federal agency staff and informed by the comments and suggestions of the public. The corridors met specific criteria, including location on Federal

lands, ability to establish connectivity with the energy grid, feasibility, legal and regulatory compliance, and compatibility with local BLM land use plans. As corridors were not established on private or State lands, the corridors are not continuous but are segments of greater or lesser length located on Federal lands only.

The WWEC PEIS designates corridors and provides guidance, best management practices (BMPs), and mitigation measures for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities. For corridors identified in the WWEC PEIS, each agency ROD amends relevant land use plans to include the new corridors; however, these modifications also designate underground-only corridors that do not necessarily allow for transmission lines or facilities. Use of the corridors identified in the PEIS is not required under land use plan modifications. Federal agencies are required to evaluate the environmental effects of projects in the newly established corridors.

The Final WWEC PEIS reviewed a number of documents to establish the need for expansion of and improvements to the existing western electricity grid and discussed the particular difficulties of reliably meeting the increasing electricity demands in the western United States (DOE and BLM 2008). The WWEC PEIS cited the Western Governors' Association in recognizing that supply centers in the western United States are often located far from load centers (such as cities) and in discussing the difficulty of transmission planning when multiple agencies and/or States are involved. The difficulty of planning and permitting long-distance transmission was also discussed in the NERC forecasts. These forecasts highlighted the deficiencies of the existing transmission infrastructure and stressed that the need for long-distance transmission is of particular importance for renewable energy resources and for western states' ability to meet their RPSs (discussed above in section 1.3.4). The WWEC PEIS also cited the DOE's "National Electric Transmission Congestion Study" (2006), which was prepared in response to section 1221(a) of the EPAct 2005 and analyzed the transmission grid to determine locations in which reliability and capacity were being impacted by congestion. The report cited several factors as contributing to congestion, including increased energy demands and lack of planning and investment in the transmission grid over the past decade.

Four action alternatives fall within a West-wide Energy Corridor; these include segments of the Proponent Preferred and Proponent Alternative routes within the New Build Section and two agency local alternatives. These are discussed in more detail in chapter 2.

Secretarial Order 3285

Secretarial Order 3285, issued by the Secretary of the Interior on March 11, 2009, under the authority of section 2 of the Reorganization Plan No. 3 of 1950, as amended, and pursuant to the provisions of section 211 of the EPAct 2005, establishes the DOI's policy of "encouraging the production, development, and delivery of renewable energy" as one of the its "highest priorities." Under this order, agencies and bureaus within the DOI are directed to work collaboratively together and with other Federal agencies, departments, States, local communities, and private landowners to encourage the timely and responsible development of renewable energy and associated transmission while protecting sensitive environmental resources.

Under section 5 of the order, a task force was developed and assigned to identify and prioritize locations in the United States best suited for large-scale production of renewable energy. In conjunction with that assignment, the task force was to identify, in cooperation with other Federal and State agencies, the electric transmission infrastructure and transmission corridors needed to deliver renewable energy to load centers and prioritize the permitting and environmental review of the associated transmission ROW applications.

1.7 MAJOR FEDERAL CONSULTATIONS

In recognition of the special relationship with the U.S. Government, the BLM and Western will continue to consult with the appropriate tribal governments at an official, executive level (government-to-government), in accordance with the National Historic Preservation Act of 1966, as amended (NHPA), EO 13175, American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, and NEPA. The BLM and Western will continue to provide opportunities for tribal involvement throughout the NEPA and Project development processes and will consult with the tribes during the development of the Project-specific NHPA programmatic agreement (PA).

The BLM is the lead Federal agency for compliance with the NHPA. Section 106 of the NHPA (36 CFR 800) requires the Federal agency to evaluate the potential effects of an undertaking on historic properties (cultural resources that have been determined to be eligible for or listed in the National Register of Historic Places (NRHP)). This process requires consultations with each state's State Historic Preservation Office (SHPO), as well as Tribal Historic Preservation Offices (THPOs), tribes, State and local governments, and other parties that may have a concern with a project's effects on historic properties. Since the BLM made an "adverse effect" determination and since a PA has been prepared (see appendix L of this EIS), the agency was required to notify and invite the Advisory Council on Historic Preservation (ACHP) to join the consultations to resolve the adverse effects of the proposed Project. A PA will be prepared because the effects of this proposed Project cannot be fully determined prior to the approval of the Project (800.14(b) (1) (ii)) since BLM will be using a phased approach to the identification process. Consulting parties for the Section 106 process include SHPOs (New Mexico and Arizona), the ACHP, other Federal agencies like the USACE and Forest Service, State and local governments, THPOs, tribes, and public groups.

Consultation with the FWS is required to comply with the Section 7 of the Endangered Species Act of 1973, as amended (ESA) (16 U.S.C. 1536(a)(2)), for species listed as threatened or endangered. The BLM and Western must analyze the effects of the proposed Project on the species and on their designated critical habitat, if present. A biological assessment (BA) was prepared to identify the nature and expected extent of impacts and recommend mitigation measures to reduce potential impacts. The BA was submitted to the FWS on March 4, 2014; the FWS issued a biological opinion (BO) on December 30, 2014. Consultation with the FWS is ongoing, as of this publication, to amend the BO to address a route change (see the "Agency Preferred Alternative" section in chapter 2). The BO and BA amendment are included in this EIS in appendix M, with mitigation and conservation measures added to table 2-8 and considered in the analysis in chapter 4.

1.8 STATE CONSULTATION

1.8.1 New Mexico Public Regulation Commission

Pursuant to section 8-8-12 of the New Mexico Statutes Annotated (NMSA), the Utility Division of the New Mexico Public Regulation Commission is tasked with enforcing rules, orders, and tariffs governing New Mexico utility providers. The Utility Division serves the commission in the regulation of a variety of utilities, including electric and renewable energy resources. It also represents the public in utility matters and present testimony and exhibits to the commission supporting adequate utility services at fair, just, and reasonable rates. Within the Utility Division, it is the Electrical Engineering Bureau that is involved with the development of regional transmission and reliability issues and that interacts with agencies and organizations such as DOE, FERC, NERC, and WECC.

1.8.2 Arizona Corporation Commission

Under article 15 of the Arizona Constitution, the ACC has jurisdiction over the regulation of public service utilities in Arizona and the quality of service and rates they charge. The ACC created an independent forum, the Arizona Power Plant and Transmission Line Siting Committee, to evaluate applications to build power plants of 100 MW or more and transmission projects of 115 kV or more. The committee provides stakeholders, government bodies, private groups, and other interested parties with the opportunity to participate in the decision to locate a specific power plant or transmission line. Southline has been coordinating informally with the ACC; however, the proposed Project would be evaluated appropriately with the ACC, depending on what status it has and whether that status falls under the ACC purview.

1.9 RIGHT-OF-WAY EASEMENT ACQUISITION PROCESS FROM NON-FEDERAL OWNERS

Although Southline has applied for a ROW across BLM-administered public lands, this EIS analyzes potential impacts on all lands potentially affected by the proposed Project. Acquiring ROW for the proposed Project includes the ROW for the transmission line and also includes any access roads to the transmission line ROW that might be required. Fee ownership would only be considered for substations or substation expansions. All other land rights acquired would be easements or leases. For land rights needed on non-Federal property for a substation or substation expansion, a fee ownership would be negotiated (as needed) with individual landowners. If the proposed Project would be acquiring an easement, it would compensate landowners for use of their land in exchange for the right to construct, operate, and maintain the transmission line and associated facilities. Negotiations between the landowner and the Project could include compensation for loss of use during and after construction, loss of nonrenewable or other resources, the restoration of unavoidable impacts, and unintended damages to property during construction. If Western would be acquiring the land rights, it would compensate the landowner based on an appraisal in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. State statutes have been enacted that define the acquisition process on private and non-Federal public lands for utilities. Western may impose stipulations in easements on private lands such as restrictions on structures that would affect necessary clearances and pose a safety hazard; most common uses, however, would be permitted on the ROW easement. Additionally, other regulatory authorities at the State and/or local level may have jurisdictions over private land and may elect to impose certain stipulations as part of their permitting approval process(es).

For the New Build Section, Southline and/or Western would obtain the necessary ROW, using the contracts, terms, conditions, and other requirements in coordination with Western. If Southline is unable to negotiate an easement or obtain clear title for the land right, Western may negotiate the easement, or obtain the necessary rights through condemnation proceedings, in accordance with Federal law. Western's policy is to avoid condemnation if at all possible. Compensation for all ROWs would be based on the fair market value of the lands. Landowners would retain ownership of the property and the right to use their property, except for a few uses that could conflict with access to or the safe operation of the transmission line or the safety of the landowner or maintenance crews.

For the Upgrade Section, Western would obtain ROW, permanent and temporary, as needed, which could also include acquiring access right-of-entry, in addition to the transmission line ROW. As with the New Build Section described in more detail above, Western would obtain the necessary ROW, using appropriate contracts, terms, conditions, and other requirements. Please note that no additional ROW would be required through Bar V Ranch (a local conservation area east of Tucson) or in congested

suburban areas such as from the Del Bac Substation through Tucson to the Rattlesnake Substation, or near J-6 Ranch and Mescal. Western is presently negotiating with the Tohono O'odham Nation to renew the existing ROW across tribal allotment lands; the ROW renewal is a separate action outside of the proposed Southline Transmission Line Project EIS, and a draft environmental assessment for this is currently under review by the BIA. On Coronado National Forest and Reclamation lands, Western would need to file necessary documentation as appropriate. Western's existing ROW would be used as a foundation for any proposed lands expansion. Western would also obtain any necessary lands, which may include the use of its Federal land acquisition authority.

1.10 SCOPE OF THE ANALYSIS

The following section describes the geographic and temporal bounds of the analysis in the following document, including a description of connections, if any.

1.10.1 Geographic Scope

The geographic scope of the analysis area is shown in figure 1-1 and is based on the overall analysis area used by Southline during its initial siting and routing process. As previously noted, Southline proposes to provide interconnection to several existing substations. Four key substations in particular form the endpoints (Afton and Saguaro substations) and midpoints (Hidalgo and Apache substations) of the Project. The Afton and Saguaro substations serve as the end points of the analysis area as well (see figure 1-1).

The geographic scope of this analysis (analysis area) varies by resource and is different between the New Build Section and the Upgrade Section. Generally, the analysis area for the affected environment of the New Build Section is a 2-mile-wide corridor, and for the Upgrade Section, it is a 500-foot-wide corridor. Each resource section in chapter 3 identifies the geographic area relevant to the analysis of that resource.

1.10.2 Temporal Scope

The temporal scope of this analysis addresses both the short- and long-term effects of the proposed Project, including the no action alternative and route alternatives. Short-term effects, like those associated with construction, would occur within a 5-year time frame from the beginning of the proposed Project. Operation, maintenance, decommissioning, and abandonment effects are analyzed in the long term, which for transmission projects of this type is considered to be 50 years.

1.10.3 Connected Action Consideration

Connected actions are those that are closely related to the proposed Project and should therefore be discussed in the same impact statement (40 CFR 1508.25). These actions are those projects that cannot or would not proceed unless other actions are taken previously or simultaneously, or are interdependent parts of a larger action and depend on the larger action for their justification. There are no actions currently proposed that are connected actions to this proposed Project.

No proposed generation sources have been identified that would intend to connect to the proposed Project. If any such projects did exist, they would need to be ripe for NEPA analysis in order to be considered a connected action for purposes of this EIS. Although some electrical generating sources would likely connect to the proposed Project to transmit power, the proposed Project would proceed independently of any generation project, and no generation project, proposed or existing, is required for

the proposed Project to be feasible. Therefore, potential generation sources are not considered connected actions and are not included in the direct and indirect effects analysis of this document. To the extent that they can be identified at this time, they are considered in the cumulative impacts analysis in this EIS.

Other electrical transmission lines, both local and regional, are considered part of the larger regional planning efforts to meet the transmission system needs throughout the desert Southwest. The proposed Project is a separate and distinct project from any of those discussed in other planning efforts; any other proposed new transmission lines can and would be built and operated independently. While these other proposed transmission lines are not connected actions, those that are reasonably foreseeable are considered as part of the cumulative impacts analysis in this EIS.

1.11 COOPERATING AGENCIES

Cooperating agencies includes those Federal, State, tribal, and local agencies that have jurisdiction by law and/or special expertise (40 CFR 1508.5). BLM sent letters to 21 tribes and to 33 agencies at the Federal, State, and local level inviting participation as a cooperating agency in preparation of the EIS. Sixteen agencies accepted invitations to participate: USACE; Reclamation; DOD Clearinghouse; U.S. Environmental Protection Agency (EPA); DOD Fort Huachuca; National Park Service (NPS); Forest Service (Coronado National Forest); FWS; Arizona Game and Fish Department (AGFD); Arizona State Land Department (ASLD); New Mexico Department of Game and Fish (NMDGF); New Mexico State Land Office (NMSLO); Cochise County, Arizona; Greenlee County, Arizona; Graham County, Arizona; and City of Sierra Vista, Arizona. Chapter 5, "Consultation and Coordination," includes a list of those agencies invited to participate as cooperating agencies.

1.12 SCOPING AND PUBLIC INVOLVEMENT

As discussed in section 1.2.1, BLM purpose and need, an NOI to prepare this EIS and the potential plan amendment was published in the Federal Register on April 4, 2012. Publishing the NOI initiated a 60-day public and agency scoping period, during which the public had the opportunity to provide input on potential issues to be addressed in the EIS. The BLM and Western held two agency scoping meetings for the EIS and six public meetings at the locations listed in table 1-6.

Table 1-6. Locations of Agency and Public Scoping Meetings

Date	Location
Agency Scoping Meetings	
May 8, 2012	Las Cruces, New Mexico
May 17, 2012	Tucson, Arizona
Public Scoping Meetings	
May 8, 2012	Las Cruces, New Mexico
May 9, 2012	Deming, New Mexico
May 10, 2012	Lordsburg, New Mexico
May 15, 2012	Willcox, Arizona
May 16, 2012	Benson, Arizona
May 17, 2012	Tucson, Arizona

The public scoping period was scheduled to close after 60 days, but as a result of public requests for an extension, the BLM and Western extended the scoping comment period by 30 days. Comments received before the July 5, 2012 deadline were used to help formally scope the proposed Project. All comments that were received became a part of the administrative record and were included in the scoping comment analysis. All comments were entered into an interactive, searchable database and coded to reflect the subject matter of concern, sorted, and summarized. A detailed analysis of the scoping comments is presented in the "Scoping Summary Report" (SWCA Environmental Consultants (SWCA) 2012) available at the BLM Project website: http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html. Issues were identified that could be used for consideration in alternatives and the development of the EIS; these are presented in the following section, in table 1-9.

Though not part of the NEPA process, Southline also conducted a series of stakeholder meetings and workshops in 2011 prior to the formal scoping period. The goals of these meetings were to give the public early notification and to solicit public input from interested stakeholders that would help Southline develop a proposed Project that could be presented to the BLM in a formal ROW application.

Southline met with local jurisdictions such as city administrators, county commissioners and supervisors, as well as State officials in both New Mexico and Arizona and representatives from local community organizations and agencies within the Project area. Table 1-7 is a list of these pre-NEPA stakeholder meetings.

Table 1-7. Locations of Pre-NEPA Meetings with Jurisdictions and Agencies

Date	Jurisdiction/Agency
July 6, 2011	City of Deming
July 6, 2011	Luna County
July 11, 2011	Las Cruces Chamber of Commerce
July 18, 2011	Southwest Transmission Cooperative
July 18, 2011	Fort Huachuca
July 19, 2011	Cascabel Working Group Tucson Audubon Community Watershed Alliance Empire-Fagan Organization
July 20, 2011	City of Willcox
July 26, 2011	New Mexico Non-governmental Organizations
July 27, 2011	New Mexico Public Regulation Commission
August 2, 2011	ASLD
August 2, 2011	Tucson Metropolitan Chamber of Commerce
August 3, 2011	Cochise County
August 4, 2011	Arizona Non-governmental Organizations
August 5, 2011	Arizona Department of Environmental Quality
August 17, 2011	City of Columbus, New Mexico
August 22, 2011	Natural Resource Defense Council
September 12, 2011	Pima County
September 13, 2011	Hidalgo County

In addition, Southline hosted pre-NEPA public meetings in Deming and Lordsburg, New Mexico (September 21–22, 2011); in Willcox, Tucson, and Marana, Arizona (September 27–29, 2011); and in Benson, Arizona (November 10, 2011). Routing workshops were hosted in Deming (September 22, 2011) and Tucson (September 28, 2011).

As a result of the Southline public outreach, the public was informed about the proposed Project, had participated in the preliminary routing process, understood Southline's approach to routing, and were familiar with the goals of the proposed Project prior to the formal agency public scoping process.

1.12.1 Draft EIS Public Involvement

The BLM and Western published an NOA for the Draft EIS/Draft RMPA in the Federal Register on April 11, 2014. The NOA announced the release of the Draft EIS and the beginning of a 90-day comment period.

The BLM and Western each distributed press releases on April 11, 2014, and paid notices were published in newspapers of record. Both the press release and notices notified the public of the availability of the Draft EIS, the beginning of the 90-day comment period, and public open house/hearing dates, times, and locations hosted by the BLM and Western.

BLM and Western hosted three public open houses/hearings and one agency meeting in each state, for a total of six public open houses/hearings and two agency meetings. These were hosted to provide information on the proposed Project, answer questions about the analysis in the Draft EIS, and encourage public comments on the Draft EIS. Dates and locations of these open houses/hearings and meetings follow in table 1-8.

Table 1-8. Locations of Public Open Houses/Hearings and Agency Meetings for Draft EIS

Date	Public Open Houses/Hearings
May 6, 2014	Las Cruces, New Mexico
May 7, 2014	Deming, New Mexico
May 8, 2014	Lordsburg, New Mexico
May 20, 2014	Benson, Arizona
May 21, 2014	Willcox, Arizona
May 22, 2014	Tucson, Arizona
Date	**Agency Meetings**
May 6, 2014	Las Cruces, New Mexico
May 22, 2014	Tucson, Arizona

A total of 89 comment submittals (letters, emails, commenters at hearings) was provided to the BLM and Western on the Draft EIS; within the 89 letters, there were 805 individual comments. All comments that were received became a part of the administrative record were entered into an interactive, searchable table and coded to reflect the subject matter of concern, sorted, and summarized. Chapter 8 of the Final EIS includes all Draft EIS comments and agency responses to these comments in tabular format. Section 1.1.1 above summarizes the changes to the EIS between the Draft and Final documents.

1.12.2 Route Variation Outreach

In December 2014, the BLM and Western sent outreach letters to property owners in the vicinity east of Willcox Playa in Cochise County and south of Tucson International Airport along Old Vail Connection Road in Pima County. The purpose of the outreach letters was to notify the property owners of the new route variations (see section 1.1.1) that are added to this EIS analysis. These comments and agency responses to those outreach letters are included in table 8-1 in chapter 8 and are considered in this EIS, along with all the comments received on the Draft EIS. A total of 35inquiries and comment submittals (letters, emails, phone calls) was provided to the BLM and Western.

1.13 ISSUES TO BE ANALYZED

As a result of the scoping process, a number of issues to be analyzed were identified and served as the basis for the development of project alternatives (see table 1-9).

1.13.1 Resource Issues

Table 1-9 provides a summary of the issues identified during the scoping process, as well as where the issues have been addressed in the EIS. Issues for each resource are discussed in detail in Chapter 3, "Affected Environment," and in Chapter 4, "Environmental Consequences."

Table 1-9. Summary of Issues Identified During Scoping

Issues	Where Addressed in EIS
PURPOSE AND NEED - Purpose and need statement should be clear and broad and reflect potential benefits of the project, public interest in cleaner energy economy, and potential alternative means of achieving that goal. - Purpose and need should provide a clear explanation in the context of the electrical power system reliability and need for additional transmission line to supply power.	Chapter 1, sections 1.2 and 1.3
PROJECT DESCRIPTION - Need more detail regarding the conditions for the new substations, detailed construction, operation and maintenance plans, descriptions of how the proposed transmission line fits into the regional renewable energy development and transmission in the West, and the extent to which the proposed transmission line would carry renewable energy versus fossil fuel–based energy.	Chapter 2, section 2.4
ALTERNATIVES - Transmission line should be routed to the west/southwest of Willcox Playa in areas that are already disturbed, farmed, or have existing utility features, largely to avoid avian concerns. - Transmission line should be located in open valleys rather than against hills and facility siting should consider avoiding or minimizing impacts to wildlife corridors and landscape connections. - Transmission line siting should consider completely avoiding Gila, Mimbres, San Francisco, and Animas watersheds. - Transmission line siting should consider locating underground. - Transmission line siting should consider locating on State lands rather than private lands, and existing lines in the Benson area should be upgraded. - Transmission line should be located near existing lines and in existing ROWs where possible. - The Nature Conservancy's "Ecoregional Assessment" and the "Sonoran Desert Conservation Plan" should be referenced during siting.	Chapter 2, sections 2.6 and 2.7

Table 1-9. Summary of Issues Identified During Scoping (Continued)

Issues	Where Addressed in EIS
AIR QUALITY AND CLIMATE CHANGE - Impacts on air quality from construction and maintenance emissions. - Possible increases in criteria pollutants in associated with the proposed Project, such as additional impacts on non-attainment from carbon monoxide and smaller particulate matter, i.e., particulate matter 10 (PM_{10}). - Analysis of how climate change could exacerbate potential Project impacts.	Chapter 3, section 3.2 Chapter 4, section 4.2

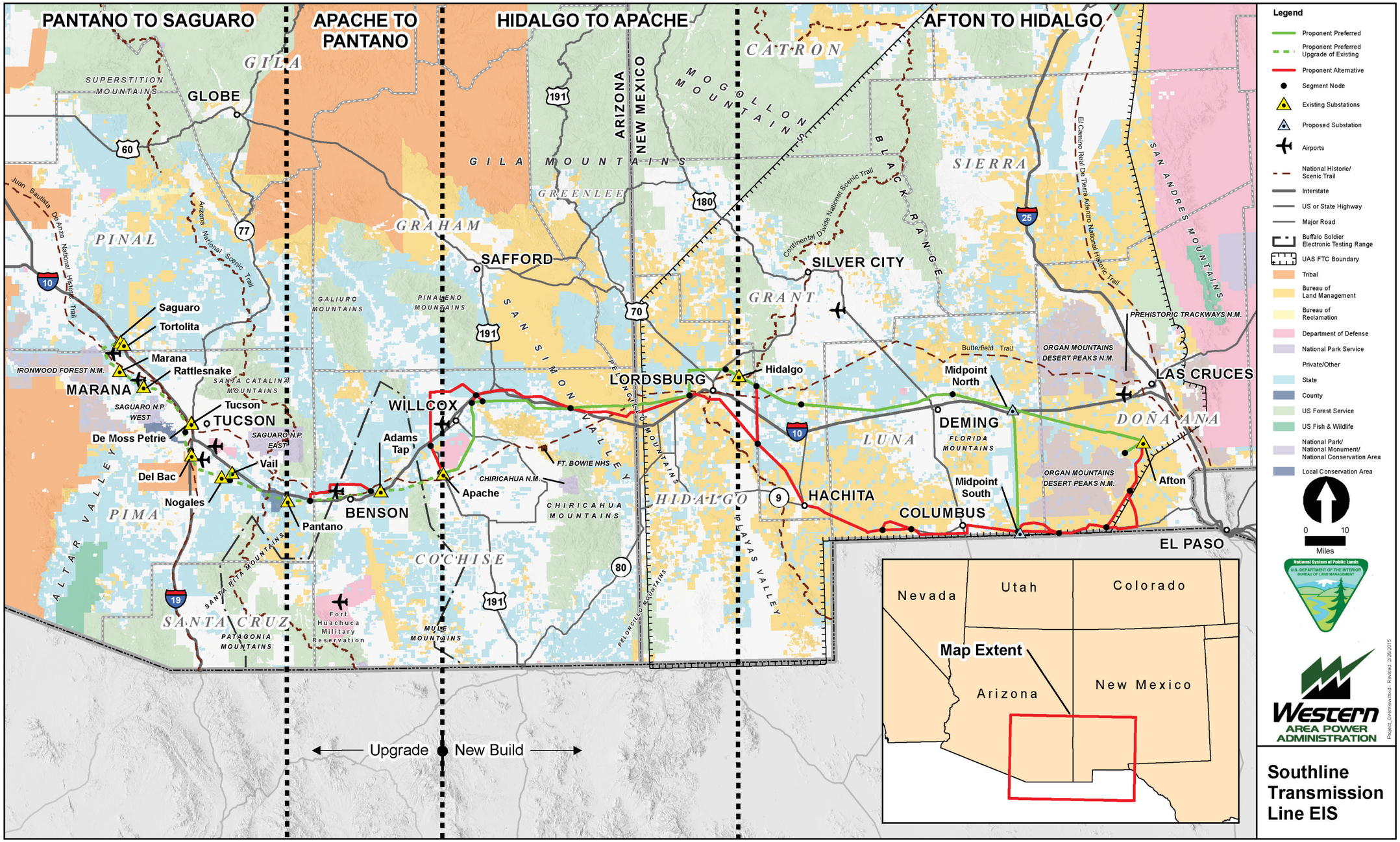
BIOLOGICAL RESOURCES
- Impacts of the proposed structures on avian resources, including but not limited to:
  - Migrating birds and raptors between Whetstone and Rincon mountains;
  - Migrating birds along the east side of the Willcox Playa;
  - The avian protection area along the Lordsburg Playas;
  - The sandhill crane winter use site and migration corridor east of Columbus, New Mexico, and at the Apache Substation;
  - Suitable habitat for the northern aplomado falcon;
  - Crossings of riparian corridors;
  - Benefits to sensitive resources of using existing ROWs;
- Impacts to natural open space and vital biological corridors, including but not limited to, Tumamoc Hill and Tucson Mountain Park;
  - Consider the Pima County "Sonoran Desert Conservation Plan" (Pima County 2009) and " Hidalgo County Comprehensive Plan Update 2011" (Hidalgo County 2011) for natural resources;
  - Impacts of new project access roads resulting in the introduction and spread of invasive species;
- Impacts of the proposed Project on native habitat and sensitive vegetative resources, including playas, riparian areas, Pima pineapple cacti, saguaro, and ironwood;
- Impacts of the proposed Project on Federal and State lists of special status wildlife species;
- Impacts of the proposed Project on wildlife travel corridors resulting from fragmentation;
- Impacts of the proposed Project on mule deer, bighorn sheep, and pronghorn antelope habitat;
- Impacts of construction activities on sewer conveyance facilities;
- Impacts to the accessibility for maintenance and repair of the line during times of flooding;
- Cumulative impacts of the proposed Project on water as a result of potential development
- Impacts of the proposed Project on water quality;
- Impacts of the proposed Project on the hydrologic balance of depressions or playa basins and ephemeral aquatic habitat;
- Impacts of the proposed Project on riparian species, habitats, and wetlands that function as corridors from the Animas drainage to the Gila and Mimbres drainages.
	Chapter 3, section 3.8
	Chapter 4, section 4.8

CULTURAL RESOURCES - Potential impacts on cultural resources, including but not limited to: the Butterfield Overland Mail Trail, Tumamoc Hill, Camino Real de Tierra Adentro National Historic Trail, and the Juan Bautista de Anza National Historic Trail in Arizona; - Potential visual impacts to cultural resource sites, including but not limited to: Juan-Bautista de Anza National Historic Trail, Los Morteros, and Fort Bowie National Historic Site; - Need for a Class I and Class III inventory to identify impacts to cultural resources; - Need for a Historic Properties Treatment Plan prior to construction.	Chapter 3, section 3.9 Chapter 4, section 4.9
TRIBAL CONCERNS - Potential impacts on physical integrity, accessibility, and use of existing sacred sites; - Explanation of government-to-government consultation and how issues were addressed in the selection of the preferred alternative; - Potential physical, visual, and social/psychological impacts to Native American traditional cultural properties and sacred landscapes.	Chapter 3, section 3.9 Chapter 4, section 4.9
FARMLANDS AND RANGELANDS - Impacts to range livestock operations associated with grazing allotments in the project area; - Impacts to pasture layout and proximity to range improvements from infrastructure placement; - Impacts to Pima County–owned preserves.	Chapter 3, section 3.11 Chapter 4, section 4.11

Table 1-9. Summary of Issues Identified During Scoping (Continued)

Issues	Where Addressed in EIS
GEOLOGY AND MINERALS - Impacts to geology and mineral resources.	Chapter 3, section 3.4 Chapter 4, section 4.4
HUMAN HEALTH AND SAFETY - Impacts of electromagnetic field from transmission lines on natural resources, humans, and Fort Huachuca's Electronic Proving Ground; - Potential increase in transmission lines in a congested area would be an easy target for a terrorist attack.	Chapter 3, section 3.16 Chapter 4, section 4.16
HAZARDOUS MATERIALS AND WASTE - Plans to reduce impacts of hazardous waste volumes and expected storage, disposal, and management plans.	Chapter 3, section 3.17 Chapter 4, section 4.17
LAND USE - Identify ASLD conceptual planning areas; - Consider co-location of compatible land use; - Consider the objectives of Federal, State, tribal, or local land use plans, policies, and controls in the project area, including but not limited to the "Pinal County Comprehensive Plan" (Pinal County 2010a) and the "Airport Master Plan for Marana Regional Airport" (Coffman Associates Airport Consultants 2007); - Impacts to private landowners, including land usage, fair market–based compensation; - Impacts of increased structure height on military training flight routes and effects on a proposed drone program near Benson; - Impacts to the uses and existence of recreation areas, including but not limited to: the Continental Divide National Scenic Trail, the Arizona National Scenic Trail, and Pima County's Tucson Mountain Park; - Impacts to State and Federal special use and designated lands in the proposed analysis area; - Impacts to wilderness qualities of BLM lands to the southeast of Fort Bowie National Historic Site; - Impacts to airspace; - Potential increase in undocumented access through implementation of the Project.	Chapter 3, section 3.11 Chapter 4, section 4.11
MILITARY USES - Potential electromagnetic interference with the mission of and use of the Buffalo Soldier Electronic Testing Range in southeastern Arizona. Also, concern regarding enabling renewable energy projects in the region, resulting in siting of renewable projects in the Buffalo Soldier Electronic Testing Range; - Potential interference with flight paths in southwestern New Mexico and southeastern Arizona.	Chapter 3, section 3.11 Chapter 4, section 4.11
SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE - Impacts to the economy of southern Arizona through deleterious impacts on recreation and the tourism industry; - Regional and local economic benefits in the form of job creation and substantial tax base, including new lines near existing or potential clean energy generation projects; - Impacts to rural areas where population growth may not occur; - Impacts to monetary value of existing and future residential properties and neighborhoods across the Project; - Impacts of the Project on power rates, including the total cost per kilowatt-hour of electricity delivered, compared with the cost of renewable generation; - Impacts to communities of rebuilding existing transmission lines; - Increased auditory impacts from the Project.	Chapter 3, section 3.15 Chapter 4, section 4.15
SOILS - Impacts of sedimentation and erosion on downstream habitat from construction vehicle traffic and road maintenance; - Impacts of construction vehicle traffic and road maintenance on soils and erosion.	Chapter 3, section 3.5 Chapter 4, section 4.5
VISUAL RESOURCES - Visual impacts of existing and proposed structures on residential areas and natural preservation areas, including the desert floor and scenic areas west of Mescal Road; - Impacts to the viewshed of Saguaro National Park; - Impacts of the proposed structures versus shorter structures with longer span lengths.	Chapter 3, section 3.10 Chapter 4, section 4.10

Figure 1-1. Project overview.



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